## AMENDMENTS TO THE CLAIMS

Please delete all previous claims and insert the following claims.

1. **(CURRENTLY AMENDED)** A method for ~~the determination of~~ **determining** gas flow velocities ~~irrespective of the nature of the gas or the flow velocity thereof, which comprises positioning a flow sensing device in~~ **comprising passing** a gas ~~flow, said flow sensing device comprising of at least one electrically conducting solid material positioned at an angle to the gas flow, at least one conducting element connecting said at least one conducting material to a electricity measurement means, the gas flow over said at least one solid material generating a flow of electricity along the direction of the gas flow due to the pressure gradient developed across the solid material, said electrical energy being transmitted by said conducting element to said electricity measurement means provided external to the gas flow, to measure the electricity generated as a function of the rate of flow of said flow~~ **over a solid material, the material kept at an inclined angle and having a high Seebeck coefficient, measuring the electric signal generated, and determining the gas flow velocity from the signal so generated**.

2. **(CURRENTLY AMENDED)** A method as claimed in claim 1 wherein the solid material ~~comprises a material with a high Seebeck coefficient~~ **is selected from the group consisting of a doped semiconductor, a single wall type carbon nanotube, a multi-wall type carbon nanotube, graphite and metallic material with a high Seebeck coefficient**.

3. **(CURRENTLY AMENDED)** A method as claimed in claim ~~1~~ **2** wherein the ~~solid material is selected from the group consisting of a doped semiconductor, graphite, a single wall type carbon nanotube, a multi-wall type carbon nanotube, and metallic material with high Seebeck coefficient~~ **doped semiconductor is selected from the group consisting of *n*–Germanium, *p*–Germanium, *n*–silicon and *p*–silicon**.

4. **(CURRENTLY AMENDED)** A method as claimed in claim ~~3~~ **2** wherein the ~~doped~~

~~semiconducting material is selected from the group consisting of n - Germanium, p - Germanium, n - silicon and p - silicon~~ **metallic material is selected from polycrystalline copper, GaAs, $Bi_2Te_3$, Tellurium and Selenium**.

5. (CURRENTLY AMENDED) A method as claimed in claim ~~3~~ **1** wherein the ~~metallic material is selected from polycrystalline copper, GaAs, Tellurium and Selenium~~ **gas is selected from the group consisting of nitrogen, argon, air, and carbon dioxide**.

6. (CURRENTLY AMENDED) A method as claimed in claim 1 wherein the ~~gas is selected from the group consisting of nitrogen, argon, oxygen, carbon dioxide and air~~ **solid material is kept at an angle of 20° to 70° and particularly at an angle of 45°**.

7. (CURRENTLY AMENDED) A ~~method as claimed in claim 1 wherein the method has a response time of < 0.1s~~ **flow sensing device for measuring gas flow velocities comprising at least one gas flow sensor made of metal having a high Seebeck coefficient and kept at an inclined angle, and at least one conducting element connecting the gas flow sensor to an electricity measurement means**.

8. (CURRENTLY AMENDED) A ~~method~~ **flow sensing device** as claimed in claim ~~1~~ **7** wherein ~~a voltage is induced in the solid material due to the flow of the gas depends on a temperature difference across the solid material along the direction of inviscid flow~~ **the metal is selected from the group consisting of a doped semiconductor, a single wall type carbon nanotube, a multi-wall type carbon nanotube, graphite and metallic material**.

9. (CURRENTLY AMENDED) A ~~method~~ **flow sensing device** as claimed in claim ~~1~~ **8** wherein the ~~gas flow has a velocity in the range of 1 to 140 m/s~~ **doped semiconductor is selected from the group consisting of *n*–Germanium, *p*–Germanium, *n*–silicon and *p*-silicon.**

10. **(CURRENTLY AMENDED)** A ~~method~~ **flow sensing device** as claimed in claim ~~1~~ **8** wherein the ~~gas flow across the solid material is at an angle in the range of 20° and 70°, preferably of 45°~~ **metallic material is selected from the group consisting of polycrystalline copper, GaAs, $Bi_2Te_3$, Tellurium and Selenium**.

11. **(CURRENTLY AMENDED)** A flow sensing device ~~useful for measurement of gas flow velocities irrespective of the flow velocity or the nature of the gas, said device comprising at least one gas flow sensing element and at least a conducting element connecting said gas flow sensing element to a electricity measurement means~~ **as claimed in claim 7 wherein the flow velocity of a gas selected from the group consisting of nitrogen, argon, air, and carbon dioxide is measured**.

12. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~11~~ 7 wherein the ~~gas flow sensing element comprises a solid material with good electrical conductivity and high Seebeck coefficient~~ **electricity measurement means is an ammeter or a volt-meter**.

13. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~12~~ 7 wherein ~~the solid material is selected from the group consisting of doped semiconductor, graphite, single wall type carbon nanotube, multi-wall type carbon nanotube, and metallic material with high Seebeck coefficient~~ **more than one gas flow sensor is provided**.

14. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim 13 wherein the ~~doped semiconducting material is selected from the group consisting of n-Germanium, p-Germanium, n- silicon and p- silicon~~ **gas flow sensors comprise a plurality of doped semiconductors connected in series or parallel with a single conducting element at opposing ends of the sensors**.

15. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~13~~ 14 wherein the ~~metallic material is selected from polycrystalline copper, GaAs, Tellurium and Selenium~~ **semiconductors are connected in series**.

16. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~11~~ 14 wherein the ~~gas is selected from the group consisting of nitrogen, argon, oxygen, carbon dioxide and air~~ **semicónductors are connected parallel to each other**.

17. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~11~~ 7 wherein the ~~electricity measurement means comprises a ammeter to measure the current generated across the opposite ends of said at least one or more gas flow sensor elements or a voltmeter to measure the potential difference across the two opposite ends of the said one or more gas flow sensor elements~~ **gas flow sensor comprises a matrix consisting of a plurality of solid materials connected by metal wires, the matrix provided on a high resistance undoped semiconducting base and connected to an electricity measurement means**.

18. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~11~~ 7 wherein the ~~flow sensing element~~ **gas flow sensor** comprises ~~of a plurality of doped semiconductors all connected in series or parallel with a single conducting element each being provided at the respective extreme ends of the said plurality of doped semiconductors~~ **alternate strips of *n*- and *p*- type semiconductors, each *n*- and *p*- type semiconductor strip separated by an intervening layer of undoped semiconductor, the alternate strips of *n*- and *p*- type semiconductors connected by a conducting strip, wherein the alternate strips of *n*- and *p*- type semiconductors, intervening undoped semiconductor layers, and conducting strips are provided on a semiconducting base material with electrical contacts at opposing ends of the base material, where the base is connected to an electricity measurement means**.

19. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~18~~ 14 wherein the ~~said plurality of doped semiconductors are connected in series so as to measure the potential difference generated across the ends of the said plurality of doped semiconductors~~ **gas flow sensors comprise a plurality of carbon nanotubes**.

20. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim 18 wherein the ~~said plurality of doped semiconductors are connected in parallel to each other so as to enable determination of the current generated across the two ohmic contacts formed by the respective conducting elements at the ends thereof~~ **semiconduting base material is insulated.**

21. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~11~~ 7 wherein the ~~gas flow sensor comprises of a matrix consisting of a plurality of gas flow sensing elements consisting of solid materials connected by metal wires, the entire matrix being provided on a high resistance undoped semiconducting base, said matrix of sensing materials being connected to a electricity measurement means~~ **conducting element comprises either a wire or an electrode**.

22. **(CURRENTLY AMENDED)** A flow sensing device as claimed in claim ~~11~~ 7 wherein the ~~electricity measurement means is selected from a voltmeter and an ammeter~~ **conducting element comprises a wire and an electrode**.

23. **(CURRENTLY AMENDED)** A ~~flow sensing device~~ **method of generating electrical energy** ~~as claimed in claim 21 wherein the gas flow sensing elements forming the matrix and the metal wires connecting said gas flow sensing elements are provided on a single chip~~ **comprising passing a gas over a solid material kept at an inclined angle and having a high Seebeck coefficient, measuring the electric signal generated, and transmitting the electrical energy so generated**.

24. **(CURRENTLY AMENDED)** A ~~flow sensing device~~ <u>**method**</u> as claimed in claim ~~11~~ <u>**23**</u> wherein the ~~gas flow sensor comprises of alternate strips of n and p type semiconductors, each ii and p type semiconductor strip being separated from its immediate neighbor by a thin intervening layer of undoped semiconductor, said alternate strips of n and p type semiconductors being connected by a conducting strip, said alternate strips of n and p type semiconductors with intervening undoped semiconductor layers, and conducting strip being provided on a semiconducting base material, electrical contacts being provided at two opposite ends of the base material and connected to a electricity measurement means~~ <u>**solid material is selected from the group consisting of a doped semiconductor, a single wall type carbon nanotube, a multi-wall type carbon nanotube, graphite and metallic material with a high Seebeck coefficient**</u>.

25. **(CURRENTLY AMENDED)** A ~~flow sensing device~~ <u>**method**</u> as claimed in claim ~~11~~ <u>**24**</u> wherein the ~~one or more gas flow sensor elements comprises of a plurality of carbon nanotubes all connected in series or parallel with a single conducting element each being provided at the respective extreme ends of the said plurality of carbon nanotubes~~ <u>**doped semiconductor is selected from the group consisting of *n* – Germanium, *p* – Germanium, *n* – silicon and *p* – silicon**</u>.

26. **(CURRENTLY AMENDED)** A ~~flow sensing device~~ <u>**method**</u> as claimed in claim ~~25~~ <u>**24**</u> wherein the ~~said plurality of carbon naiiotubes arc connected in series so as to measure the sum of the potential difference generated across the ends of the said plurality of carbon nanotubes~~ <u>**metallic material is selected from the group consisting of polycrystalline copper, GaAs, $Bi_2Te_3$, Tellurium and Selenium.**</u>

27. **(CURRENTLY AMENDED)** A ~~flow sensing device~~ <u>**method**</u> as claimed in claim ~~25~~ <u>**23**</u> wherein the ~~said plurality of nanotubes are connected in parallel to each other so as to~~

~~enhance of the current generated across the two ohmic contacts formed by the respective conducting elements at the ends thereof~~ **gas is selected from the group consisting of nitrogen, argon, air and carbon dioxide**.

28. (CURRENTLY AMENDED) A ~~flow sensing device~~ **method** as claimed in claim ~~11~~ **23** wherein the ~~one or more gas flow sensor elements are provided on a insulated base~~ **solid material is kept at an angle of 20° to 70° and particularly at an angle of 45°**.

29. (CURRENTLY AMENDED) A ~~flow sensing~~ device ~~as claimed in claim 11 wherein the conducting element comprises of a wire~~ **for generating electrical energy comprising a gas flow sensor made of metal having a high Seebeck coefficient and kept at an inclined angle, at least one conducting element connecting the gas flow sensor to an electricity measurement means, and a means for transmitting the electrical energy generated**.

30. (CURRENTLY AMENDED) A ~~flow sensing~~ device **for generating electrical energy** as claimed in claim ~~11~~ **29** wherein the ~~conducting element comprises of an electrode~~ **metal is selected from the group consisting of a doped semiconductor, a single wall type carbon nanotube, a multi-wall type carbon nanotube, graphite and metallic material**.

31. (CURRENTLY AMENDED) A ~~flow sensing~~ device **for generating electrical energy** as claimed in claim ~~11~~ **30** wherein the ~~conducting element comprises of a combination of a wire connected to an electrode~~ **doped semiconductor is selected from the group consisting of *n* – Germanium, *p* – Germanium, *n* – silicon and *p* – silicon**.

32. (CURRENTLY AMENDED) A ~~method~~ **device** for ~~the generation of~~ **generating** electrical energy ~~using an energy conversion device 10 comprising at least one energy conversion means, at least a conducting element connecting said energy conversion means to a electricity storage or usage means, the flow of a gas across the energy conversion means resulting in~~

~~generation of a Seebeck voltage being generated in each energy conversion means along the direction of the gas flow, thereby generating electrical energy, said electrical energy being transmitted to the energy storage or usage means through the said conducting elements~~ **as claimed in claim 30 wherein the metallic material is selected from polycrystalline copper, GaAs, $Bi_2Te_3$, Tellurium and Selenium**.

33. **(CURRENTLY AMENDED)** A ~~method~~ **device for generating electrical energy** as claimed in claim ~~32~~ **29** wherein ~~the energy conversion means comprises a solid material with good electrical conductivity and high Seebeck coefficient~~ **a gas selected from the group consisting of nitrogen, argon, air and carbon dioxide contacts the gas flow sensor**.

34. **(CURRENTLY AMENDED)** A ~~method~~ **device for generating electrical energy** as claimed in claim ~~32~~ **29** wherein the ~~solid material is selected from the group consisting of a doped semiconductor, graphite, a single wall type carbon nanotube, a multi-wall type carbon nanotube, and metallic material with high Seebeck coefficient~~ **electricity measurement means is an ammeter or a volt-meter**.

35. **(CURRENTLY AMENDED)** A ~~method~~ **device for generating electrical energy** as claimed in claim ~~32~~ **29** wherein ~~the doped semiconducting material is selected from the group consisting of n – Germanium, p - Germanium, n - silicon and p - silicon~~ **more than one gas flow sensor is provided**.

36. **(CURRENTLY AMENDED)** A ~~method~~ **device for generating electrical energy** as claimed in claim ~~32~~ **35** wherein the ~~metallic material is selected from polycrystalline copper, GaAs, Tellurium and Selenium~~ **gas flow sensors comprise a plurality of doped semiconductors connected in series or parallel with a single conducting element at opposing ends of the sensors**.

37. **(CURRENTLY AMENDED)** A ~~method~~ device for generating electrical energy as claimed in claim ~~32~~ 36 wherein the gas ~~is selected from the group consisting of nitrogen, oxygen, carbon dioxide, argon and air~~ **semiconductors are connected in series**.

38. **(CURRENTLY AMENDED)** A ~~method~~ device for generating electrical energy as claimed in claim ~~32~~ 36 wherein the ~~energy conversion device comprises of a plurality of doped semiconductors all connected in series or parallel with a single conducting element each being provided at the respective extreme ends of the said plurality of doped semiconductors~~ **semiconductorrs are connected parallel to each other**.

39. **(CURRENTLY AMENDED)** A ~~method~~ device for generating electrical energy as claimed in claim ~~38~~ 29 wherein the ~~said plurality of doped semiconductors are connected in series~~ **gas flow sensor comprises a matrix consisting of a plurality of solid materials connected by metal wires, the matrix provided on a high resistance undoped semiconducting base, the matrix connected to an electricity measurement means**.

40. **(CURRENTLY AMENDED)** A ~~method~~ device for generating electrical energy as claimed in claim ~~38~~ 29 wherein the ~~said plurality of doped semiconductors are connected in parallel to each other so as to enable determination of the current generated across the two ohmic contacts formed by the respective conducting elements at the ends thereof~~ **gas flow sensor comprises alternate strips of *n*- and *p*- type semiconductors, each *n*- and *p*- type semiconductor strip separated by an intervening layer of undoped semiconductor, the alternate strips of *n*- and *p*- type semiconductors connected by a conducting strip, wherein the strips of *n*- and *p*- type semiconductors, the intervening undoped semiconductor layers, and the conducting strip are provided on a semiconducting base material with electrical contacts at opposing ends of the base material, and the base is connected to an electricity measurement means**.

41. **(CURRENTLY AMENDED)** A ~~method~~ **device for generating electrical energy** as claimed in claim ~~32~~ **36** wherein the ~~energy conversion means comprises of a matrix consisting of a plurality of gas flow sensing elements consisting of solid materials connected by metal wires, the entire matrix being provided on a high resistance undoped semiconducting base, said semiconducting base being connected to a electricity storage means~~ **gas flow sensors comprise a plurality of carbon nanotubes**.

42. **(CURRENTLY AMENDED)** A ~~method~~ **device for generating electrical energy** as claimed in claim ~~41~~ **35** wherein the gas flow ~~sensing elements forming the matrix and the metal wires connecting said gas flow sensing elements are provided on a single chip gas flow sensors are provided on an insulated base~~ **sensors are provided on an insulated base**.

43. **(CURRENTLY AMENDED)** A ~~method~~ **device for generating electrical energy** as claimed in claim ~~32~~ **29** wherein the ~~gas flow sensor comprises of alternate strips of n and p type semiconductors, each n and p type semiconductor strip being separated from its immediate neighbor by an thin intervening layer of undoped semiconductor, said alternate strips of n and p type semiconductors being connected by a conducting strip, said alternate strips of n and p type semiconductors with intervening undoped semiconductor layers, and conducting strip being provided on a semiconducting base material, electrical contacts being provided at two opposite ends of the base material and connected to a electricity storage means~~ **conducting element comprises either a wire or an electrode**.

44. **(CURRENTLY AMENDED)** A ~~method~~ **device for generating electrical energy** as claimed in claim ~~32~~ **29** wherein the ~~energy conversion means comprises of a plurality of carbon nanotubes all connected in series or parallel with a single conducting element each being provided at the respective extreme ends of the said plurality of carbon nanotubes~~ **conducting element comprises a combination of a wire and an electrode**.

Claims 45-71. (CANCELED).